Subject Index

Special exposures, 5-3

Thermal cycling, 5-3 Abrasive media, inspecting cleanliness of, 9-3 Ultraviolet exposure, 5-3 Evaluating for salt, 9-3 Wet/dry cycling, 5-2 Testing for oil, 9-4 Coatings for Application of thermal spray coatings, ambient Atmospheric exposures, 5-6 conditions required for, 7-1 Cathodic protection of reinforcing steel, 5-9 Air temperature, humidity, and dew point, 7-1 Cavitation/erosion protection, 5-10 Steel temperature, 7-1 Freshwater immersion, 5-6 High-temperature exposures, 5-7 Application of thermal spray coatings, Nonskid applications, 5-9 techniques for, 7-2 Partially submerged structures, 5-10 Spray angle, 7-3 Seawater immersion, 5-6 Spray pattern, 7-2 Zebra mussel protection, 5-8 Standoff distance, 7-2 Coverage of thermal spray coatings, 7-5 Application, sequence of thermal spray, 7-5 Environment and worker protection Applicator, qualification of, 10-2 regulations, 13-1 Adhesion, coating, 10-3 Appearance, coating, 10-2 Equipment, operation of arc spray, 7-4 Equipment setup and operation, 10-2 Air cap selection, 7-4 Arc shorting control, 7-4 Characteristics, 2-1 Atomization air pressure, 7-4 Adhesion, 2-2 Cable length, 7-4 Anodic, 2-2 Power, 7-4 Cathodic, 2-2 Voltage, 7-4 Corrosion resistance, 2-2 Wire feed rate, 7-4 Density, 2-1 Wire tips, 7-4 Erosion resistance, 2-1 Hardness, 2-1 Equipment, operation of wire and powder flame spray, 7-3 Coating selection, considerations in, 5-1 Air cap selection, 7-4 Cavititation/erosion, 5-3 Atomization air pressure, 7-3 Cost. 5-5 Oxygen and fuel gas flow rates, 7-3 Ease of application, 5-4 Powder feed rate, 7-3 Extremes of pH, 5-2 Wire feed rate, 7-3 Extremes of temperature, 5-1 Field conditions, 5-5 Equipment, qualification procedure, 10-1 High humidity, 5-1 Adhesion, coating, 10-2 Immersion, 5-2 Appearance, coating, 10-2 Impact and abrasion, 5-3 Limits on surface preparation, 5-4 Uniformity of operation, 10-1 Maintainability, 5-5 Inspection of sealers, 9-8 Regulatory requirements, 5-4 Solvent exposure, 5-2

EM 1110-2-3401 29 Jan 99

Inspection, blast cleaning, 9-2 Classification of, 3-1 Abrasive cleanliness, 9-3 Identification and marking of, 3-3 Ambient air condition, 9-3 Manufacture of, 3-3 Blast air pressure, 9-4 Packaging of, 3-3 Blast nozzle orifice, 9-4 Procurement of, 3-1 Compressed air cleanliness, 9-3 Sizes of, 3-2 Surface profile, 9-4 Specification by product, name/manufacturer, 3-1 Inspection, documentation of, 9-9 Processes, thermal spray application, 2-3 Inspection, frequency of, 9-8 Arc spraying, 2-4 Detonation flame spraying, 2-4 Flame spraying, 2-3 Inspection, presurface preparation, 9-2 Grease and oil, 9-2 High velocity oxygen flame spraying, 2-3 Plasma spraying, 2-6 Heat affected zones, 9-2 Powder flame spraying, 2-3 Pitting, 9-2 Sharp edges, 9-3 Wire flame spraying, 2-3 Soluble salts, 9-3 Weld flux and spatter, 9-2 Reference samples, 9-1 Blast media, 9-1 Inspection, surface cleanliness, 9-4 Paint, 9-1 Blast cleanliness, 9-4 Sealer, 9-1 Dust, 9-5 Wire, 9-1 Grease and oil, 9-5 Soluble salts, 9-5 Safety, 12-1 Material safety data sheets, 12-8 Plans and submittals, 12-4 Inspection, thermal spray, 9-1 Adhesion, 9-7 Sealing and painting, 12-4 Ambient conditions, 9-6 Surface preparation, 12-1 Appearance of applied coating, 9-7 Thermal spray procedures, 12-2 Bend testing, 9-6 Coating thickness, 9-6 Sealers, types of, 8-1 Aluminum pigmented epoxy mastic (CID A-A-3127), 8-2 Job reference standard, 9-1 Aluminum, silicone (TT-P-28) for Evaluation of, 9-1 Preparation of, 9-1 high temperature, 8-2 Coal tar epoxy (C-200A), 8-2 Epoxy primer/polyurethane topcoat Maintenance of thermal spray coatings, 11-1 Assessing condition, 11-1 (CID A-A-3132), 8-2 Repair procedures, 11-1 Silicone alkyd for high temperature, 8-3 Tung-oil phenolic aluminum (TT-P-38), 8-2 Repair sequences, 11-2 Vinyl (V-102e, V-103c, V-106d, V-766e), 8-1 Materials, testing of thermal spray, 3-3 Vinyl-butyral wash primer (SSPC Paint No. 27)/ alkyd (CID A-A-2962), 8-2 Cast and helix, 3-3 Composition, 3-3 Surface appearance, 3-3 Sealing and painting of thermal spray coatings, 8-1, 8-3 Materials, thermal spray, 3-1 Characteristics of sealers, 8-1 Acceptance of, 3-2 Purpose, 8-1 Certification of, 3-2 Types of sealers, 8-1

Surface preparation, abrasive blast cleaning, 6-2
Abrasive cleanliness, 6-3
Blast media type and selection, 6-3
Blast profile, 6-4
Centrifugal, 6-5
Cleaning after, 6-5
Equipment, 6-2
Techniques, 6-3
Time between blasting and thermal

Surface preparation, minimizing costs, 6-6

spraying, 6-6

With reusable media, 6-4

Surface preparation, solvent cleaning, 6-1 Hydrocarbon solvent cleaning, 6-1 Steam cleaning, 6-1 Water cleaning, 6-1

Surface preparation, standards and specifications, 6-7 SSPC-SP 5 or NACE #1, 6-7 SSPC VIS 1-89, 6-7

Surface preparation of Edges, 6-7 Heat-affected zones, 6-7 Pitted steel, 6-7 Types of thermal spray materials, 2-2
Ceramic, 2-2
Corrosion resistant zinc, aluminum, and zinc-aluminum alloy coatings, 2-2
Ferrous metal alloy, 2-2
Other, 2-2
Polymer, 2-2
Stellite 6, 5-9

Uses of thermal spray coatings, 2-7
Antifoulants, 2-7
Cathodic protection, 2-7
Cavitation resistance, 2-8
Corrosion protection, 2-7
Electrical applications, 2-8
High-temperature resistance, 2-7
Insulation, 2-8
Repair, 2-8
Wear resistance, 2-7